

WHAT IS CLAIMED IS:

1. An automatic ice maker comprising:

a longitudinally arranged ice making section having multiple ice making compartments open in a horizontal direction;

a cooling tube which is arranged on a backside of the ice making section to be in close contact therewith and through which a refrigerant is circulated when an ice making operation is carried out and a high-temperature refrigerant gas is circulated when a deicing operation is carried out; and

ice making water feeding means positioned in ice making positions for closing the ice making compartments when the ice making operation is carried out to feed ice making water to the ice making compartments, thereby producing lumps of ice, and laterally moved in parallel to an open position for opening the ice making compartments by opening/closing means (15) when the deicing operation is carried out,

wherein the ice making water feeding means are laterally moved to the open positions while the lumps of ice are frozen thereto to remove the lumps of ice from the ice making compartments when the deicing operation is carried out, and the lumps of ice are deiced from the ice making water feeding means in the open positions.

2. An automatic ice maker comprising:

a longitudinally arranged ice making section having an ice making compartment open in an obliquely downward direction, which is cooled when an ice making operation is carried out, and heated when a deicing operation is carried out;

an ice making water feeding means positioned in an ice making position for closing the ice making compartment when the ice making operation is carried out to feed ice making water to the ice making compartment, thereby producing a lump of ice, and set apart from the ice making section to be laterally moved to the open position for opening the ice making compartment when the deicing operation is carried out; and

an opening/closing means which comprises a second engaging section to be engaged with a first engaging section of the ice making water feeding means,

and which is displaceable between a first position for engaging the second engaging section with the first engaging section to hold the ice making water feeding means in the ice making position when the ice making operation is carried out and a second position for disengaging the second engaging section from the first engaging section to laterally move the ice making water feeding means to the open position by its own weight when the deicing operation is carried out,

wherein when a frozen surface between the ice making section and the lump of ice heated by the deicing operation is melted after the second engaging section is displaced from the first position to the second position by the opening/closing means, the ice making water feeding means is laterally moved by its own weight while the lump of ice is frozen to be held in the open position for engaging the first engaging section with the second engaging section, and

wherein the ice making water feeding means is laterally moved from the open position to the ice making position under the engaging action between the first engaging section and the second engaging section when the second engaging section is displaced from the second position to the first position by the opening/closing means.

3. The automatic ice maker according to claim 1, wherein lateral partitions vertically facing each other are arranged in the ice making section to define the ice making compartments, and set to be parallel to each other or expanded toward the opening side.

4. The automatic ice maker according to claim 1 or 3, wherein the opening/closing means comprises an elastic member for urging the ice making water feeding means in a direction to approach the ice making section when the ice making operation is carried out, and urging the ice making water feeding means in a direction to be apart from the ice making section when the operation transfers to deicing, and the ice making water feeding means is moved between the ice making position and the open position through the elastic member.

5. The automatic ice maker according to claim 1 or 2, wherein an ice

making water tank is arranged below the ice making section and, in the ice making water tank, an ice passage port is disposed in a position directly below the lumps of ice frozen in the ice making water feeding means moved to the open position.

6. The automatic ice maker according to claim 5, further comprising a guiding means for guiding, to the ice making water tank, ice making water fed to the ice making compartment to flow down without being frozen when the ice making operation is carried out and deciding water fed to the backside of the ice making water feeding means to flow down when the deicing operation is carried out and a cover means disposed below the guiding means to cover the ice passage port.

7. The automatic ice maker according to claim 1 or 2, wherein the frozen surfaces of the lumps of ice of the ice making water feeding means are formed to be flat, and the ice making water feeding means comprises a deicing means for releasing freezing with the lumps of ice.

8. The automatic ice maker according to claim 1 or 2, wherein a pair of ice making sections are arranged opposite to each other across the cooling tube.

9. A method for operating an automatic ice maker,
the automatic ice maker comprising: a longitudinally arranged ice making section which is cooled when an ice making operation is carried out, and heated when a deicing operation is carried out; and a plurality of ice making water feeding means which face an ice making position close to the ice making section to produce a lump of ice between the means and the ice making section during the ice making operation, and laterally move to an open position to be apart from the ice making section by switching to a deicing operation,

the method comprising:

moving the ice making water feeding means while the lump of ice is frozen, and heating the ice making water feeding means to deice the lump of ice when the deicing operation is carried out; and

carrying out an operation to deal with an abnormality, which returns the

ice making water feeding means to the open position to resume the deicing operation if a detection means for detecting an arrival of the ice making water feeding means at the ice making position is not set in a detection state even after the passage of normal time necessary from a start of movement of the ice making water feeding means of the open position toward the ice making position by transfer from the deicing operation to an ice making operation to return of the ice making water feeding means after normal deicing of the lump of ice to the ice making position.

10. The method according to claim 9, wherein the operation is switched from deicing to ice making when temperature detection means detects that the ice making water feeding means returned to the open position to be heated reaches a preset releasing temperature during the abnormality dealing operation.

11. The method according to claim 9 or 10, wherein the operation is stopped if the abnormality dealing operation is repeated by a predetermined number of times.